

EQUIPMENT SCHEDULE				
ITEM	MAKE	MODEL	CAPACITY	QUANTITY
1	WASTEWATER TECHNOLOGY INC. IN NEMA 4 STEEL ENCLOSURE W/ ALARM LIGHT AND HORN	#065601	N/A	-
2	GOULDS MERCURY LEVEL FLOAT CONTROLS	#073612	N/A	-
3	GOULDS DECANT PUMP	PE31P1	0.33 HP 120V 1 PH 3000 RPM	1
4	GOULDS SUBMERSIBLE INFLUENT PUMP	WS05182B	0.5 HP 120V 3 PH 230 VOLTS 1750 RPM 2" DISCHARGE	2
5	GOULDS SUBMERSIBLE RAS PUMP	WE 1532H	1.5 HP 230V 3 PH 1750 RPM 2" DISCHARGE	1
6	GOULDS SUBMERSIBLE MLSS PUMP	WS0732B	3/4 HP 230V 3 PH 1750 RPM	1
7	SEW EURODRIVE GEAR MOTOR R-SERIES	R137R77DT100L4BM G4HR-KS	7.5 RPM RATIO 223:1 TORQUE RATED 38,692 IN.LB. SERVICE FACTOR 1.9, 1.8, 230/3/60 CLASS F INSULATION, SEVERE DUTY, INVERTOR DUTY, MTG POS. B3 US INSTALLATION	-
8	IMCO IN-LINE FLOW METERS	DS02 CETXFA10A UNIMAG 2" WITH MODEL DSM110-4411E TRANSMITTER	-	2
9	ALL STAR REGENERATIVE BLOWER	RB6-305-3	2 HP 3 PH 60 HERTZ 230 VOLTS	2
10	EDI FLEXAIR 20" TUBE DIFFUSERS	91 x 502 ITEM #00268 (20")	-	2
10	EDI FLEXAIR 40" TUBE DIFFUSERS	91 x 1003 ITEM #00268 (40")	-	2
12	TROJAN TECHNOLOGIES, INC.	UV3200-PTP	120V, 60HZ	1
11	DYNA-DISC DISC FILTER	2-54	230120V, 60HZ	1

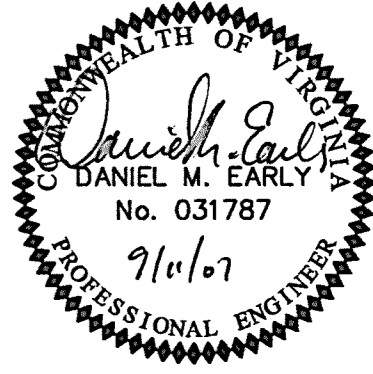
WWTP GENERAL NOTES:

- SEE SHEET C4.1 FOR WWTP FACILITY SITE PLAN.
- SEE SHEET C4.2 FOR BIOWHEEL PLAN.
- SEE SHEET C4.3 FOR WWTP EQUIPMENT PLAN.
- A LICENSED ELECTRICIAN SHALL BE REQUIRED TO INSTALL ALL ELECTRICAL CONDUIT, WIRING, CONTROL CIRCUITRY, AND CONTROL PANELS. THE ELECTRICAL CONTRACTOR SHALL PROVIDE SHOP DRAWINGS SHOWING PROPOSED CONDUIT AND CONTROL WIRING INSTALLATION PRIOR TO START OF WORK.
- REFER TO ALL WWTP SHOP DRAWINGS PROVIDED BY THE MANUFACTURER.
- PROVIDE SACRIFICIAL ANODES FOR CORROSION PROTECTION. INSTALL ANODES IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
- THE WWTP MANUFACTURER SHALL PROVIDE DETAILED INSTRUCTIONS FOR INSTALLATION AND START-UP OF THE TREATMENT PLANT.
- PROVIDE BRONZE FLOW METERS IN EASILY ACCESSIBLE LOCATIONS AND AS SPECIFIED ON THE PLANS.
- BACKFILL AROUND WWTP AND PROVIDE A MINIMUM OF 4-INCHES OF REVEAL AROUND THE PERIMETER OF THE TREATMENT PLANT. GRADE SITE TO ENSURE POSITIVE DRAINAGE AWAY FROM THE TREATMENT PLANT.
- REFER TO PROJECT MANUAL FOR DETAILED MATERIAL AND EQUIPMENT SPECIFICATIONS.
- A LICENSED CLASS III WASTEWATER OPERATOR SHALL PROVIDE DAILY OPERATIONS AND MAINTENANCE FOR THIS WWTP FACILITY AFTER START-UP. WASTEWATER LICENSURE SHALL COMPLY WITH THE LATEST DPOR REGULATIONS AS SET FORTH BY THE STATE OF VIRGINIA. TESTING AND MONITORING GUIDELINES SHALL BE SET FORTH BY THE VIRGINIA DEPARTMENT OF HEALTH.

TANK VOLUME SCHEDULE			
TANK CLASSIFICATION	MEASUREMENTS	VOLUME (CU. FT.)	VOLUME (GALLONS)
EQUALIZATION TANK 1	7'L x 10'H x 14'W	980	7,300
EQUALIZATION TANK 2	12'L x 10'H x 14'W	1,680	12,500
DENITRIFICATION TANK	7'-6"L x 10'H x 14'W	1,050	7,800
BIO-WHEEL TANK	20'L x 10'H x 14'W	7,800	20,832
SLUDGE TANK	5'L x10'H x 14'W	700	5,200
CLARIFIER	14'L x 14'W	196 SQ. FT.	—

- THE OPERATIONS AND MAINTENANCE MANUAL FOR THE WWTP FACILITY SHALL BE PROVIDED 90 DAYS AFTER START-UP. THE WASTEWATER OPERATOR IN CONJUNCTION WITH THE WWTP MANUFACTURER SHALL PROVIDE THIS O&M MANUAL TO THE OWNER, THE CONSULTING ENGINEER, AND VIRGINIA DEPARTMENT OF HEALTH. THE MANUAL SHALL REFLECT ALL NECESSARY OPERATING PROCEDURES THAT ARE PARTICULAR AND SPECIFIC TO THIS TREATMENT SYSTEM.
- THE WWTP FACILITY SHALL HAVE A CLASS I RELIABILITY RATING AS SET FORTH BY THE VIRGINIA DEPARTMENT OF HEALTH. AN EMERGENCY BACK-UP ELECTRICAL GENERATOR SHALL BE PROVIDED WITH AUTOMATIC TRANSFER SWITCH CAPABILITY. THE GENERATOR SHALL BE SIZED TO ACCOMMODATE THE ULTIMATE WWTP FACILITY.
- EFFLUENT PUMP STATION NOTES:
 - THE EFFLUENT PUMPS SHALL BE CONFIGURED FOR A DUPLEX ALTERNATING ARRANGEMENT AND INCLUDING A LEAD-LAG OPERATION.
 - SEE DETAIL SHEETS HEREIN FOR EXACT DIMENSIONS AND SPECIFICATIONS FOR EFFLUENT PUMP STORAGE TANK ADDITIONS.
 - THE EFFLUENT SUBMERSIBLE PUMPS SHALL BE GOULDS MODEL 150L10 RATED AT 200 GPM @ 165.21 FT TOTAL DYNAMIC HEAD.
 - ALL EFFLUENT PUMPS SHALL BE CONTROLLED USING THE EXISITNG PRESSURE SENSING SWITCH APPARATUS.
 - THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL PROPOSED EQUIPMENT FOR REVIEW BY THE CONSULTING ENGINEER.
 - REFER TO THE PROJECT MANUAL FOR DETAIL SPECIFICATIONS FOR PROPOSED EQUIPMENT.
 - ALL INSTALLATION SHALL ADHERE TO THE LATEST REGULATIONS SET FORTH BY FRANKLIN COUNTY AND THE VIRGINIA DEPARTMENT OF HEALTH.
 - ALL CONCRETE TANK PENETRATIONS SHALL BE PROPERLY SEALED USING A NON-CORROSIVE NON-SHRINKING GROUT.

- ALL CHEMICAL FEED LINES, ELECTRICAL POWER SUPPLY, AND ELECTRICAL EQUIPMENT CONTROL CIRCUITS SHALL BE INSTALLED IN APPROPRIATED SIZED PVC CONDUITS. THE CONTRACTOR SHALL SUBMIT A SHOP DRAWING INDICATING CONDUIT DIAMETERS AND PROPOSED ROUTING CONFIGURATION FOR CONDUIT. THE CONDUIT SHALL BE BURIED BELOW GROUND. PENETRATIONS THROUGH TANK AND BUILDING WALLS SHALL ADHERE TO APPLICABLE CODES AND SHALL BE PROPERLY SEALED.
- PUMP STATION OPERATION SEQUENCE
 - A RISE IN THE WATER LEVEL CLOSES THE LEAD PUMP CONTROL SWITCH (THRU TRANSDUCER) AND THE LEAD PUMP, M1 OR M2, STARTS.
 - A CONTINUED RISE IN WATER LEVEL CLOSES LAG PUMP SWITCH (BY WAY OF PRESSURE TRANSDUCER SET POINT)
 - A CONTINUED RISE IN WATER LEVEL CLOSES ALARM SWITCH (PRESSURE TRANSDUCER) AND THE OUTSIDE WARNING LIGHT TURNS ON AND A HORN SOUNDS. THE AUTO DIALER IS ALSO ACTIVATED. THE HORN AND EXTERIOR LIGHT MAY BE TURNED OFF BY A MANUAL SWITCH PB1 CLOSE TO SR.
 - A CONTINUED RISE IN WATER LEVEL CLOSSES THE BACK-UP ALARM FLOAT AND SENDS ANOTHER ALARM SIGNAL TO THE AUTODIALER
 - AS THE LEVEL DROPS THE LAG PUMP FLOAT SWITCH OPENS. THE PUMP IS KEPT OPERATING BY AUXILIARY CONTACT 1M OR 2M.
 - A CONTINUED DROP IN THE LEVEL OPENS THE ALARM FLOAT SWITCH AND SHUTS OFF OUTSIDE WARNING LIGHT.
 - A CONTINUED DROP IN LEVEL OPENS THE LEAD PUMP FLOAT SWITCH THE PUMP IS KEPT OPERATING BY AUXILIARY CONTACT 1M OR 2M.
 - A CONTINUED DROP IN THE LEVEL OPENS THE "ALL OFF" FLOAT SWITCH AND BOTH PUMPS SHUT OFF.
 - DETECTION OF PHASE FAILURE OR PHASE REVERSAL WILL SHUT DOWN PUMPS AND ACTIVATE THE AUTO DIALER.
 - ALL ALARMS WILL ACTIVATE THE AUTODIALER. THE AUTODIALER WILL CONTACT A MANNED STATION AND REPORT THE CURRENT SYSTEM CONDITION.



ACS DESIGN

ENGINEERING • SURVEYING
LANDSCAPE ARCHITECTURE
CONSTRUCTION MANAGEMENT

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WESTLAKE VILLAGE
CENTRAL SEWER SYSTEM
FRANKLIN COUNTY, VIRGINIA

DRAWN BY: CEK
DESIGNED BY: CEK
CHECKED BY: DME
DATE: 15 JUNE 2007
JOB NUMBER: 06145

REVISIONS:	
No. 1	
No. 2	
No. 3	
No. 4	

SHEET NO.:
C4.3

BIOWHEEL
EQUIPMENT SCHEDULE
& NOTES